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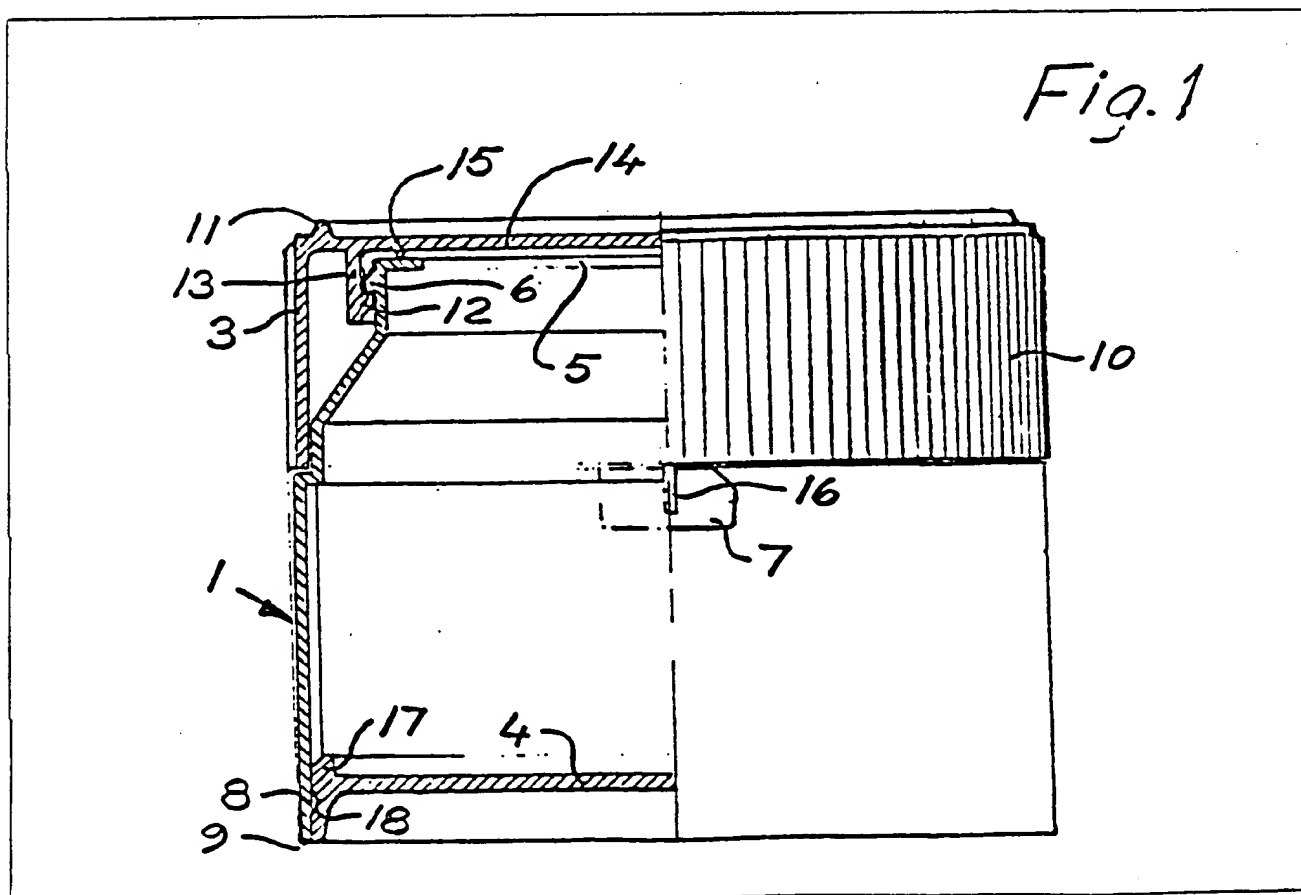
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(54) Containers for tablets

(57) A plastics container for tablets has a metal foil (2) attached to a dispensing opening (5) and a removably-connected cover (3) which covers the foil and the opening, the container being filled with tablets through a bottom opening of the

container opposite to said dispensing opening. The bottom opening is thereafter permanently sealed by a plastic plate (4), which has a flange (17) carrying a rib or groove (18) which engages a groove or rib (8) in the container side wall. The plate may be adhered or welded to improve the sealing engagement. The cover (3) includes a frangible projection (16) which is received in a recess (7) in the container side wall whereby tampering is indicated.



The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.

Fig. 1

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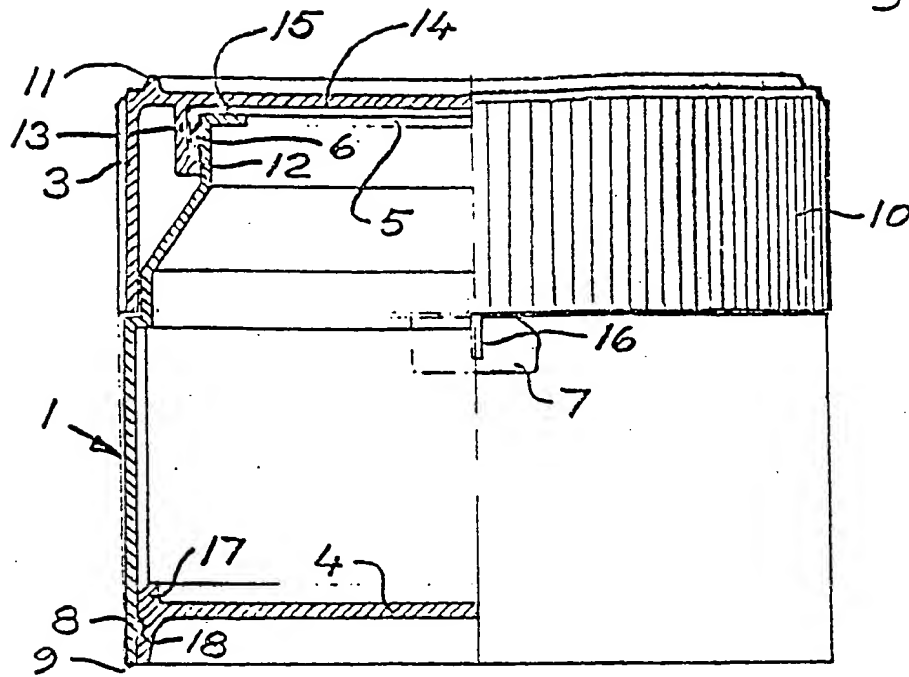
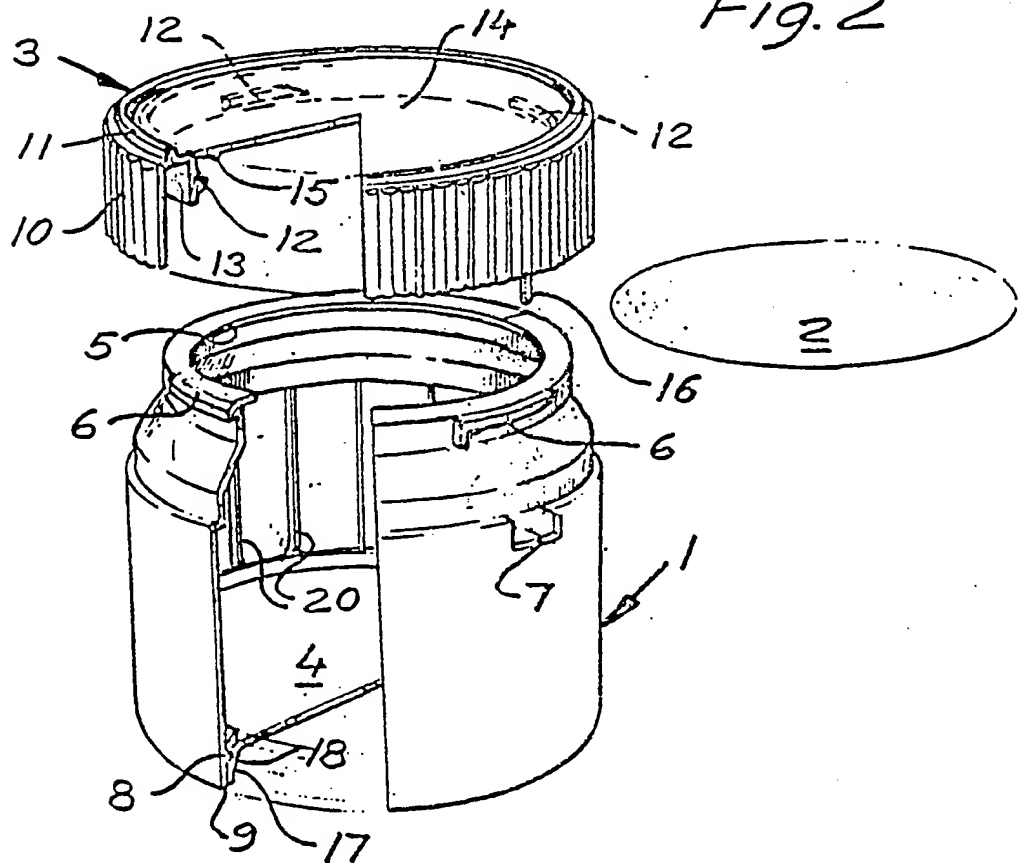


Fig. 2



SPECIFICATION

Containers for tablets

- 5 The present invention relates to a package which is especially adapted for storing tablets produced by the pharmaceutical industry and which consists of a plastic container formed as a cylinder and having a bottom and an opening for dispensing the tablets, a metal foil which tightly covers the opening and which must be broken through to allow the consumer to get at the tablets, and a plastic cover which is removably connected to the container and covers the foil and which is used for resealing said opening after the foil has been broken through.

- Packages of the kind described above are previously known and are often manufactured by means of blow moulding of container and cover as well, which has the advantage that the dispense openings therein can be made optionally large or small, or by means of injection moulding which has an advantage that the wall thickness can be made more uniform and/or be selected arbitrary within certain limits. After manufacturing the container with its bottom and the cover these components are sent to the tablet manufacturer who seals the opening of the container by means of a metal foil and attaches the cover after the container has been filled with tablets.

- It is an object of the present invention to avoid the disadvantages with previously known packages and to provide a package the parts of which are manufactured and handled in a simplified manner and which can be filled rapidly. The package is easy to open and seal, and in the sealed condition the package is very tight. The package clearly indicates whether the seal has been broken by removing the cover from the container, and can also be stacked.

- According to the invention there is provided a package including a generally cylindrical plastic container, a foil, preferably made from metal, for sealing an opening at a first end of the container through which the content of the package is intended to be dispensed after the foil has been broken through, and a cover on the container for alternatively covering and exposing said opening, characterised in that a second end of the container opposite said first end is covered by a generally circular plate attached to the second end by means of snap action after the package has been filled, the plate having an annular flange extending parallel to the longitudinal axis of the package and provided with a peripheral groove or an annular rib engaging an annular rib or a peripheral groove, respectively, on the inside of the container.

- An embodiment of the invention will now be described, by way of example, with refer-

ence to the accompanying drawings in which:—

Figure 1 is a side view, with parts broken away, of a package according to the invention, and

Figure 2 is an exploded perspective view, with parts broken away, of the package according to Fig. 1.

The package shown in the Figs. consist of four parts, namely a generally cylindrical plastic container 1 intended to contain tablets for example, a circular aluminium foil 2, a plastic cover 3 and a plastic bottom plate 4.

The container 1 is manufactured by means of injection moulding in order to obtain a thin uniform wall thickness. To compensate for the thin wall thickness the upper part of the inside of the container is provided, during the injection moulding, with stiffening ribs 20 parallel to the longitudinal axis of the package. The container 1 has a dispense opening 5 for the tablets, three locking ribs 6 distributed around the edge of the opening 5, a recess 7 on the outside of the container and an annular rib 8 on the inside of the container near its bottom edge 9.

The cover 3 is provided with a top portion 14, an outer grip portion 10 formed as a flange, an annular rib 11 on the top surface of the top portion, three locking ribs 12 extending inwardly from an annular flange 13 extending downwardly from the top portion 14, an annular sealing strip 15 on the underside of the top portion, and a projection 16 extending below the grip portion 10.

The bottom plate 4 is circular and provided with an annular flange 17 having a peripheral groove 18.

After the container 1, the cover 3, the foil 2 and the plate 4 have been manufactured in separate work operations the foil 2, which is covered with plastic, is welded on to the edge surrounding the opening 5 of the container. The cover is then pressed into engagement with the container after the ribs 12 have been aligned with the ribs 6 and the projection 16 aligned with the recess 7. When pressing down the cover the flange 13 is first bent outwardly until the ribs 12 have passed the ribs 6 whereupon the flange 13 is bent radially inwardly until the ribs 12 engage the container below the ribs 6. After the cover has been attached the grip portion 10 forms an extended portion of the outer surface of the container 1, the strip 15 engages the foil 2 and the projection 16 is located in the recess 7 as shown in Fig. 1.

The unit comprising the container 1, the foil 2 and the cover 3 is now sent to the tablet manufacturer along with the plate 4. The manufacturer places the unit on a conveying belt with the cover 3 resting on the belt, and the container is filled with tablets through its bottom opening. This is done very rapidly because this opening is large and larger than

the opening 5. After filling the container the plate 4 is pressed into locking engagement with the inside of the container by means of snap action. In this position the groove 18 in the flange 17 surrounds the rib 8 on the lower container wall, which is flexible to a limited degree. The pressing of the plate is accomplished by means of the conventional devices which are used in connection with tablet filling equipment for pressing plastic covers into locking engagement with containers. To improve the seal between the plate 4 and the container 1 an adhesive may be introduced between the flange 17 and the inner, lower part of the container wall or the flange may be welded to this wall.

When a consumer wishes to open the package he first ascertains that no unauthorized person previously has removed or tried to remove the cover 3. This he does by noting that the projection 16 is still there. Thereafter, he turns the cover until the ribs 12 are free from the ribs 6. At the same time the projection 16 is cut away by the edge of the recess 7. He then lifts the cover away from the container and removes the foil 2.

The package is closed by snapping the cover on to the container 1 in the manner described above in connection with the assembly of the unit 1, 2, 3 or by turning the cover in relation to the container until the ribs 12, which have a bayonet design which is evident from Fig. 2, have been introduced below the ribs 6.

CLAIMS

1. A package including a generally cylindrical plastic container, a foil, preferably made from metal, for sealing an opening at a first end of the container through which the content of the package is intended to be dispensed after the foil has been broken through, and a cover on the container for alternatively covering and exposing said opening, characterised in that a second end of the container opposite said first end is covered by a generally circular plate attached to the second end by means of snap action after the package has been filled, the plate having an annular flange extending parallel to the longitudinal axis of the package and provided with a peripheral groove or an annular rib engaging an annular rib or a peripheral groove, respectively, on the inside of the container.

2. A package according to Claim 1, characterised in that the plate is at a distance from the second end, one end of the peripheral edge of the flange is located in the same plane as the second end, and the inner diameter of the peripheral edge of the flange is somewhat longer than the outer diameter of an annular rib on the top surface of the cover.

3. A package according to Claim 1 or Claim 2, characterised in that the container is formed by injection moulding and has stiffen-

ing ribs on its inside extending parallel to the longitudinal axis of the container.

4. A package according to any one of Claims 1 to 3, characterised in that the inside of the cover has flexible portions for snap engagement with projections on the container, which projections prevent the removal of the cover from the container in the direction along its longitudinal axis provided that the cover has not previously been turned a predetermined angle in relation to the container, and the container has a recess in which a projection on the cover is located, which projection is designed to be cut off when turning the cover.

5. A package substantially as herein described with reference to the accompanying drawings.

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